From Popularity to Vulnerability: An Application to Dynamic Representation in Coalition Governments

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Abstract

Electoral vulnerability matters for policymakers' responsiveness to the public. While coalition governments are the norm in Europe, research on government responsiveness to public opinion studied the effects of electoral pressures mostly for single-party governments and employed measures of government popularity. This paper draws on and extends this research by developing two alternative measures of electoral vulnerability – Government Potential Vulnerability and Formateur Potential Vulnerability – that account for popularity limitations. An illustration of the measures is given by Germany (1987-2005) as a case of agenda responsiveness in coalition governments. Data from the Comparative Agendas Project on executive speeches in Germany are combined with data on vote intentions and the most important problem. Empirical analyses find support for the expectation that electoral vulnerability mediates agenda responsiveness to public issue priorities and that the proposed measures reflect more accurately the sources of vulnerability than government popularity.

Keywords: agenda responsiveness; dynamic representation; government popularity; electoral vulnerability; coalition governments.

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Although research recognized the role of electoral pressures for government responsiveness, studies have mostly focused on cases of single-party governments (e.g., Canes-Wrone and Shotts 2004; Hakhverdian 2010; but see Hobolt and Klemmensen 2008). To capture electoral pressures previous work has relied on measures of government popularity based on opinion polls data and found that electoral incentives matter for governments to respond. In turn, the wide research on party responsiveness to voters (for a review see Adams 2012) recognizes the importance of the electoral context (e.g., Spoon and Klüver 2014), but has only recently shifted attention on how participation in coalition governments affects party responsiveness (Klüver and Spoon 2016).[1]

Our paper contributes to these research lines in two ways. On the one hand, we explore the conditional effect of electoral pressures on agenda responsiveness by developing two alternative measures. Giving an illustration of these measures is the primary goal of this paper. On the other hand, we extend the limited research on dynamic representation in coalition governments by analyzing agenda responsiveness in Germany, a case so far understudied. We believe this is important for at least three reasons.

First, incumbent vulnerability is at the core of the connection between dynamic representation and political competition. Second, coalition governments are the norm in Europe. Third, measures of government popularity permit studying electoral pressures dynamically, but leave aside important issues. Focusing on how well or badly the government is doing at the polls, government popularity does not explicitly account for the fact that governing parties can be electorally vulnerable to opposition parties. Further, government popularity considers governments as monolithic entities and fails to account for the possibility that, in coalition

[1] However, see work on blame attribution by voters to parties in coalition government (e.g., Anderson 1995).

governments, vulnerability can come from the inside – junior coalition partners – and not only from the outside – main opposition parties.

Although government popularity has important limitations, we think that using vote intentions makes sense not only because polls are a reliable predictor of the electoral outcome, especially when elections are close (Jennings and Wlezien 2016), but also because responsiveness occurs between elections (Manin, Przeworski, and Stokes 1999; Soroka and Wlezien 2010; Narud and Esaiasson 2013). And so we build on the government popularity approach and propose two alternative measures.

One measure is based on the assumption that governments do not only care about their own popularity, but also about how well the opposition is doing at the polls. The other measure builds on the literature on formateur selection and is based on the idea of the PM party as the government formateur and focuses on the concept of pivotality of the PM party, which becomes vulnerable when it loses this pivotal advantage.

These measures are validated against a traditional measure of popularity and applied to dynamic representation in Germany (1987-2005), by using data on executive speeches collected by the Comparative Agendas Project. We find evidence of short-term effects of electoral vulnerability on agenda responsiveness, in that changes in government agendas respond to changes in public issue priorities conditional on changes in government's and PM party's vulnerability. Our results support previous studies on government responsiveness which find that electoral pressure affects responsiveness. However, our measures reflect more accurately the country's specific situation than measures of government popularity. We discuss the implications of our measures and results in the conclusions.

Electoral Vulnerability and Responsiveness: Going Beyond Popularity

Policymakers' responsiveness to public opinion is a key feature of representative democracy (Dahl 1971). The opinion-policy link has been widely explored through dyadic representation to collective representation and dynamic representation. Extensive work on dynamic representation has recognized the importance of both public preferences and public priorities. This duplicity has generated two parallel lines of research. The first perspective looks at responsiveness in terms of *position* (e.g., Soroka and Wlezien 2010; Lax and Phillips 2012), while the second perspective, the one adopted in this paper, looks at responsiveness in terms of *attention* (e.g., Mortensen et al 2011; Bevan and Jennings 2014). From previous research we know that different policy issues promote different levels of responsiveness and that the latter also depends on issue salience. Policymakers are in fact more likely to respond on issues that are salient and important to the public, whereas, given the complexity and the amount of public demands, policymakers' attention is scarce and varies by agenda (e.g., Jones and Baumgartner 2005).

Competitive democratic theory posits that the key mechanism that brings about responsiveness, i.e. "the need to respond", is based on elections and its key assumption is that representatives aim to be re-elected. Politicians are obliged to take account of voters' preferences and priorities in order to pursue their goal of vote maximization (Downs 1957; Barry 1970). Only if politicians are worried about the reactions of voters they will be "constantly piloted by the anticipation of those reactions" (Sartori 1977: 350). So, responsiveness is achieved by introducing Friedrich's (1963) "mechanism of anticipated reactions". If this mechanism relies on the desire of being re-elected, the incumbent will need to anticipate sympathetically voters' preferences and demands. This mechanism will perform better if incumbents perceive themselves to be vulnerable (Mayhew 1974; Fenno 1977; Strøm 1989; Bartolini 1999).

The conditional effect of government electoral vulnerability on government responsiveness finds recognition in both theoretical (e.g., Sartori 1987; Strøm 1992; Bartolini 1999, 2000) and empirical studies (e.g., Manza and Cook 2002; Hobolt and Klemmensen 2008; Hakhverdian 2010; Pickup and Hobolt 2015). Whereas the former argue that electoral vulnerability has a beneficial effect on responsiveness, the latter suggest that the vulnerability hypothesis is reflected in different institutional arrangements and argue that electoral pressure or uncertainty is a powerful incentive increasing government responsiveness to citizens' preferences and priorities. Note, however, that empirical evidence is far from being unanimous. For instance, other studies from the United States report no particular impact of presidential popularity on responsiveness to public concern (Cohen 1995) and that "unpopular presidents are not more likely than popular ones to support positions endorsed by majority opinion" (Canes-Wrone 2004: 487).

Scholars of responsiveness and dynamic representation assign a great deal of attention to the electoral pressures that governments face between elections. Studies analyzed pressures by selecting two main electoral incentives: how governments are doing in the polls (e.g., Canes-Wrone and Shotts 2004; Hobolt and Klemmensen 2008; Hakhverdian 2010; Pickup and Hobolt 2015) and how close or proximate elections are (e.g., Stimson, Mackuen, and Erikson 1995; Canes-Wrone and Shotts 2004). Government popularity is thus used as a proxy for capturing how potentially vulnerable governments are during the electoral cycle.[2]

[2] An alternative approach exists and analyses voters' propensity to vote (e.g., van der Eijk and Oppenhuis 1991). However, this approach would not help us much since such data come from pre-election surveys and hence are not available at least on a yearly basis. Similar issues also pertain to other recent measures of electoral competitiveness and government institutional

While mostly focusing on cases of single-party governments, previous work does not effectively address the issue of vulnerability in coalition governments. Studies measuring government popularity use vote intentions and presidential approval as such. This approach is a good starting point but we think it is problematic, for it leaves some relevant issues unsolved. Under the popularity perspective, what counts is the government's own popularity, no matter how the other parties are performing in the polls. We suspect that the argument in its support relies on the fact that governing parties do not care how their competitors are placed in the opinion polls; rather they only care about themselves and whether their own popularity goes up or down, and react accordingly. Yet, firstly, if government popularity declines, it does not necessarily mean that opposition popularity is going up, since voters might also prefer to abstain rather than reward opposition parties. Secondly, even if vote intentions for the government decline, the government might still be safe: vulnerability occurs when the potential success of main competitors is also included in the picture. In addition and more importantly, government popularity fails to consider different variations of vulnerability that come from governing type. That is, in coalition governments, the source of vulnerability can be internal rather than external.

We propose two measures, which both depend on the concept of uncertainty about future election outcomes (Elkins 1974) and both use vote intentions. We call the first measure Government Potential Vulnerability (GPV), for it is based on the assumption that governments can feel uncertainty in respect to the possibility of losing the government at the next election. The second measure, Formateur Potential Vulnerability (FPV), focuses on the idea that vulnerability ensues when the PM party stops holding the competitive advantage of being the

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vulnerability (Kayser and Lindstädt 2015; Abou-Chadi and Orlowski 2016; Immergut and Abou-Chadi 2014; André, Depauw, and Martin 2014).

government formateur. If the PM party is performing badly in the polls and its vote intentions decrease, it might nevertheless not be feeling vulnerable until it loses the potential of forming the government in favor of another party. These measures are described in the subsequent sections and further tested as a mediating factor in a model of dynamic representation in Germany.

Government Potential Vulnerability

The measure of GPV emphasizes voters' willingness to shift their vote. There is then no need to weight the measure by the strength or size of government and opposition since it is already embedded in the vote intention. GPV is computed by subtracting the vote intentions for the relevant opposition parties from the vote intentions for the governing parties:

$$GPV\ (it) = \sum Vote\ Intentions\ GOVT\ (it) - \sum Vote\ Intentions\ OPP\ (it) \qquad (1)$$

where i is the party and t is time. Note that values below zero in the measure denote that the government is vulnerable and the more negative the values, the higher the vulnerability. The main question becomes which parties to include. For the government the job is easy, as all parties in government should be considered. What is harder is defining what the relevant opposition is. By relevant opposition it means those parties receiving vote intentions the government might be vulnerable from, including those who are not direct rivals in the competition for government but also those ones that can steal votes from governing parties. Since our second measure of FPV is quite restrictive, we aim to be as inclusive as possible with our measure of GPV as a kind of baseline measure. Hence, we consider relevant parties that are represented in parliament throughout the period of reference. This is not a perfect criterion but is

a simple decision to avoid *ad hoc* criteria of party selection.[3] After all, governing parties compete for all votes, even if marginally. In Germany, this leaves us with CDU/CSU, SPD, FDP, Greens, and PDS/Die Linke (see Table 1). However, as some readers might consider this criterion too unrestrictive for some political systems where very small parties gain parliamentary representation, we replicated our models by using two alternative selection criteria. One criterion is a quantitative adaptation of Sartori's (1976) notable criteria of coalition potential and blackmail potential. According to this criterion, the party must either have been in government throughout the period of reference or won at least 5 percent of the votes and 5 seats in at least two elections (see Lühiste et al. 2017). Taking parties' ability to gain media attention into account, such a decision has been already applied in other studies of representation (Bischof 2018) and gives us exactly the same parties selected based on the parliamentary representation criterion. The other alternative criterion builds on the coalition formation research, especially with the ideas of size and incumbency status (e.g., Warwick 1996; Martin and Stevenson 2001, 2010). Based on this criterion, we include the largest opposition party in terms of vote shares and those parties that during the period of reference were at some point in office. Applied to Germany, this more restrictive criterion leaves us with the same parties with the exception of PDS/Die Linke. We report the analyses on agenda responsiveness based on these two alternative criteria in Table A7 and our substantive results remain the same.

[3] This decision also aims to partly accommodate cases in first-past-the-post systems like UKIP in 2015 that was seen as a major threat that helped create the opposition and perhaps an over-response to it led to the Brexit vote with an unexpected Conservative majority. We thank the anonymous reviewer for drawing this case to our attention.

Formateur Potential Vulnerability

Unlike GPV, the measure of FPV is based on the different assumption that votes are not the only goal governing parties aim for. This is relevant given that most of European democracies have coalition governments. Hence, this measure accounts for the fact that government vulnerability can also depend on motivations other than re-election. Indeed, although incumbent governments have, for various reasons, a high chance of returning immediately to office, not all incumbents 'should desire to re-form' (Martin and Stevenson 2010: 503).

Borrowing from the coalition formation research, the proposed argument is that a government would be considered safe to the extent that the PM party is still the formateur party.[4] At the core of FPV there is the idea of "pivotality". We focus on the PM party because, unlike junior coalition partners, it is the most visible party in the coalition, the most likely to set the agenda and influence government policy, and the party that typically has the opportunity to call early elections. Being the most visible party in the coalition, voters are more likely to make judgments regarding the PM party than its junior coalition partners, as research on coalition

[4] Note that the formateur is not necessarily the PM party and there is no clear evidence that the largest, the strongest or the most ideologically central party is designated to be the party which will form the government (Warwick 1996; but see Bäck and Dumont 2008). Other factors such as familiarity and governing experience are also relevant (Warwick 1996; Martin and Stevenson 2001; Bäck and Dumont 2007). Nonetheless, the problem of finding the formateur is relevant for explaining coalition formation, but it is not an issue for our purpose because the measure is computed on the already revealed PM party.

heuristics shows (e.g., Fortunato and Stevenson 2013), and so the safety of the PM party has important implications for the stability of the whole government, even though the PM party can decide to form a coalition with another party if the polls look favorably (see, e.g., Lupia and Strøm 1995).

Although research on formateur selection proposes alternative criteria, we prioritize the "largest party status" in our measure. That is, the government becomes vulnerable at the time that the PM party is no longer the largest party in the opinion polls.[5] Together, we propose two variations of FPV, useful to detect the source of vulnerability: (a) the largest junior coalition partner or (b) the largest opposition party. Scenario (b) is crucial to apply the measure to single-party (minority) governments, given that in such cases scenario (a) would not be empirically feasible. The measure of FPV will then be operationalized in the following ways:

$$FPV_{it}\ (a) \;=\; Vote\ Intentions\ PM\ (it) \;-\; Vote\ Intentions\ LJUNIOR\ (it) \qquad (2)$$

[5] The formateur selection literature posits another potential source of vulnerability that comes from the notion of median party status. However, incorporating this criterion is problematic for at least four reasons. First, the median party might not be the formateur, i.e. the PM party. Second, it is unclear whether a loss of popularity is independent of the loss of the median party status, potentially causing endogeneity problems. Third, there is a measurement issue involved, as the median party can be measured through manifestos, experts or voters, and measures of voters' perceptions of parties' positions are more likely to be available in election surveys than within the election cycle. Fourth, the median party is based on the assumption that Left-Right is the only relevant dimension, which is usually not the case. For all these reasons, we avoid including the median party status as an explicit criterion for FPV.

$$FPV_{it}\,(b) \;=\; Vote\ Intentions\ PM\ (it) \;-\; Vote\ Intentions\ LOPP\ (it) \qquad (3)$$

$$FPV_{it}\,(c) \;=\; Vote\ Intentions\ PM\ (it) \;-\; Vote\ Intentions\ LCOMP\ (it) \qquad (4)$$

where PM is the PM party, LJUNIOR is the largest coalition partner (defined as the coalition partner with the highest vote intentions), LOPP is the largest opposition party (defined as the opposition party with the highest vote intentions), and LCOMP is the largest competitor in absolute terms (defined as the party with the highest vote intentions besides the PM party). Note, again, that values below zero in the measure denote that the PM party is vulnerable and the more negative the values, the higher the vulnerability.

An Illustration: Agenda Responsiveness in Germany (1987-2005)

We apply these vulnerability measures to Germany, which is a very versatile example for empirically testing the impact of government vulnerability on dynamic representation. Since one of our measures takes into consideration vulnerability of the PM party from its largest coalition partner, a case of coalition government illustrates all variants of vulnerability better than a case of single-party government such as the US.

Allowing the formation of pre-electoral coalitions which produce a bipolar pattern conducive to high levels of cabinet durability (Saalfeld 2005), the German case offers a high variability in terms of types of government, experiencing both multi-party coalition governments

and grand coalitions.[6] Table 1 and Figure 1 report how the measures of GPV and FPV are constructed and their level for the period of reference.

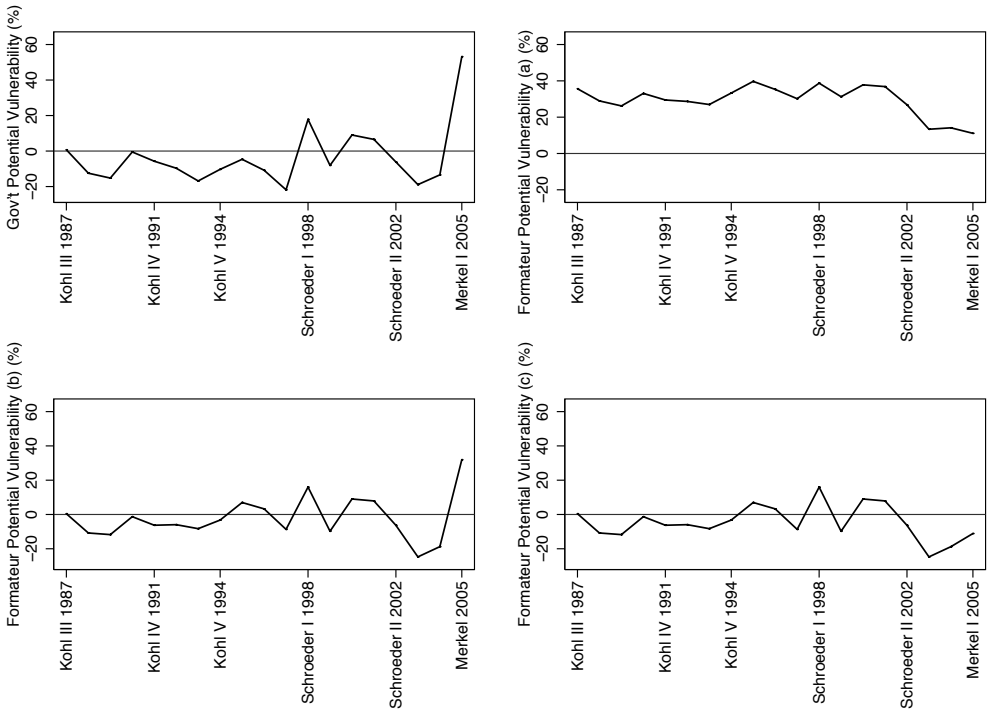
Table 1. Measures of electoral vulnerability in Germany, 1987-2005

	GPV		FPV (a)		FPV (b)		FPV (c)	
	GOVT	OPP	PM PARTY	LARGEST JUNIOR	PM PARTY	LARGEST OPP	PM PARTY	LARGEST COMP
1987	CDU/CSU + FDP	SPD + Greens	CDU/CSU	FDP	CDU/CSU	SPD	CDU/CSU	SPD
1991	CDU/CSU + FDP	SPD + Greens + PDS/Linke	CDU/CSU	FDP	CDU/CSU	SPD	CDU/CSU	SPD
1994	CDU/CSU + FDP	SPD + Greens + PDS/Linke	CDU/CSU	FDP	CDU/CSU	SPD	CDU/CSU	SPD
1998	SPD + Greens	CDU/CSU + FDP + PDS/Linke	SPD	Greens	SPD	CDU/CSU	SPD	CDU/CSU
2002	SPD + Greens	CDU/CSU + FDP + PDS/Linke	SPD	Greens	SPD	CDU/CSU	SPD	CDU/CSU
2005	CDU/CSU + SPD	FDP + Greens + PDS/Linke	CDU/CSU	SPD	CDU/CSU	Greens	CDU/CSU	SPD

[6] CAP provides data for other countries with coalition governments, such as Italy, Denmark and the Netherlands. However, no consistent time-series on public issue priorities for the Danish and Dutch cases exists, while in Italy only investiture speeches are coded and public issue priorities are available from Eurobarometer only since 2003, leaving us with very few data points on each policy domain. Unfortunately, these issues prevent us from replicating our analyses with additional cases.

Notes. The year refers to the time when a government took office.

Figure 1. Measures of government and formateur potential vulnerability in Germany, 1987-2005



The left-upper panel shows the level of government vulnerability according to the GPV measure. Most of governments are below the zero line (which means maximal uncertainty) but not the SPD-Green coalition government between 1998 and 2002. The 2005 grand coalition makes the CDU-SPD government safe again given the high vote intentions assigned in the polls. The right-upper side shows, instead, the level of vulnerability of the PM party against its junior

coalition partner. The formateur is never really vulnerable, meaning that the PM party in Germany is never afraid of losing its pivotal advantage in favor of another coalition member. Differently, the lower panels show the vulnerability of the PM party against the largest opposition party (left-hand side) and against the largest absolute competitor (right-hand side). In Germany, the pattern of these two variants of FPV is similar to the pattern of GPV, except that in 2005 the largest competitor of the CDU is its junior coalition partner SPD.

Germany is also an ideal case for dynamic representation because of data availability issues. To measure dynamic representation data on public issue priorities and government agendas are used. To measure government agendas, data from the Comparative Agendas Project (CAP) on executive speeches (Regierungserklärungen) are available from 1987 to 2005 (Breunig and Schnatterer N.d.). To measure public priorities the most important problem (MIP) question is used. Time-series data on vote intentions and for the MIP question are available from the Politbarometer. The simultaneous availability of data on voting intentions, the most important problem and government agendas makes Germany an invaluable case to test the effects of government vulnerability on dynamic representation.

Executive speeches are delivered annually by the head of state or the head of government, and are formal statements that set out the government's agenda for the year ahead (Jennings, Bevan, and John 2011). These speeches are available yearly and communicate the government's general priorities as well as more specific measures that it plans to address. Hence, they are costly signals that 'create future potential costs for the government, if the priorities in the speech are not followed by policy outputs' (Bevan, John, and Jennings 2011). Previous studies, in fact, document the translation of governments' policy agendas into legislative outputs in the United States (Edwards and Wood 1999) and Britain (Bara 2005; Bevan, John, and

Jennings 2011) and, moreover, comparative research documents that executive speeches reflect the issues governing parties emphasize in other venues, suggesting that these speeches are reasonable proxies for the government's more general rhetorical emphases (Green-Pedersen, Mortensen, and So 2015). Similar to the Comparative Manifestos Project's codings of party manifestos (Budge et al. 2001), the CAP coding scheme takes the quasi-sentences in executive speeches as the unit of analysis, with each quasi-sentence assigned a single topic code.

For our analysis, we can rely on the following CAP Major Topics: Macroeconomics (1), Health (3), Education (6), Environment (7), Law and Crime (12), Social Welfare (13), Housing (14), Defense (16), and International A fairs and Foreign Trade (19) (see Table A8 for summary statistics).[7]

The Model

A regression model is specified to evaluate the effect of government potential vulnerability on responsiveness. Scholars' attention has recently moved to applications of error correction models (ECMs) to time-series data. Using ECMs became common practice particularly in studies of dynamic representation (e.g., Jennings and John 2009; Bevan and Jennings 2014), for they allow one to estimate both short-term and long-term effects (De Boef and Keele 2008) of changes in public opinion on government activity. The choice in favor of an ECM is also methodologically appropriate, given that unit root tests reveal that not all executive speeches series are stationary and the null hypothesis that all the panels contain a unit root cannot

[7] The data will in due course be made publicly available at http://www.comparativeagendas.net/datasets_codebooks.

be rejected.[8] Since first-difference models often perform poorly and throw out long-run effects, the adoption of an ECM is a valuable solution (e.g., Beck and Katz 2011).

Another reason why ECMs are appropriate for these data is the presence of time dependencies in the data. In fact, visual inspection of autocorrelation and partial autocorrelation functions suggest first-order autocorrelation in the dependent variable. The pooled models are estimated with panel corrected standard errors (PCSE) (Beck and Katz 1995), which controls for panel heteroskedasticity and contemporaneous correlations of the errors.

The model specifies over-time changes in emphasis in executive speeches as a function of the levels of (and changes in) public issue priorities. The dependent variable, [Δ *Govt Speech (t)*], is the difference between issue emphasis in the executive speech in the current year and issue emphasis in the executive speech in the previous year, i.e., positive values on the dependent variable denote that the government's issue emphasis on the issue has increased over the past year. The independent variables are: [*Govt Speech (t−1)*], government's issue emphasis in the executive speech in the preceding year; [*Public Priorities (t−1)*], the proportion of the previous year's public issue emphasis; *[*Δ *Public Priorities (t)*], the change in public issue emphasis in the current year compared to public issue emphasis in the previous year; [*Vulnerability (t−1)*], the level of government potential vulnerability (measured as GPV or FPV) in the previous year; and *[*Δ *Vulnerability (t)*], the change in current government potential vulnerability (measured as GPV or FPV) compared to its vulnerability in the previous year. The following pooled model is estimated yearly over all the governments in the study:

$$\Delta \textit{ Govt Speech (t)} = \alpha 0 + \alpha 1 \textit{ [Govt Speech (t-1)]}$$

[8] Fisher-type tests based on ADF tests are used to detect non-stationarity in the data.

$$+ \beta 1\,[\Delta\ Public\ Priorities\ (t)] + \beta 2\,[Public\ Priorities\ (t-1)]$$

$$+ \beta 3\,[\Delta\ Vulnerability\ (t)] + \beta 4\,[Vulnerability\ (t-1)]$$

$$+ \beta 5\,[\Delta PublicPriorities\ (t) \times \Delta\ Vulnerability\ (t)]$$

$$+ \beta 6\,[Public\ Priorities\ (t-1) \times Vulnerability\ (t-1)]$$

$$+ \beta 7\,[Govt\ Ideology\ (t)] \qquad (5)$$

To evaluate the Vulnerability Hypothesis, the key coefficients are those on the interaction between [Δ *Public Priorities (t)*] and [Δ *Vulnerability (t)*] variables, for short-term effects, and the interaction between the [*Public Priorities (t−1)*] and [*Vulnerability (t−1)*] variables, for long-term effects. A negative coefficient β5 on the short-term interaction between public priorities and government vulnerability would denote that an increase in public priorities on a given issue in the current year – compared to the previous year – is associated with an increase in issue emphasis in government speeches conditional on government vulnerability, i.e., that the government responds to short-term changes in public priorities when vulnerable. Similarly, a negative coefficient β6 on the long-term interaction between public priorities and government vulnerability would denote that an increase in public priorities on a given issue in the previous year is associated with an increase in issue emphasis in government speeches conditional on government vulnerability, i.e., that the government responds to public priorities in the previous year when vulnerable.

To assess dynamic representation independently of the conditional effect of vulnerability, the coefficients of interest are β1and β2. A positive and significant coefficient β1 on the [Δ *Public Priorities (t)*] variable would denote that increases in public priorities in the current year (compared to the previous year) are associated with increased government emphasis in its

speech, a short-term effect, while a positive and significant coefficient β2 on the [*Public Priorities (t−1)*] variable would denote that the more an issue becomes important to the public at the previous time period, the more the government emphasizes it in its speech at the current period.

A negative and significant coefficient β3 [Δ *Vulnerability (t)*] variable would denote that an increase in government vulnerability in the current year (compared to the previous year) is associated with increased government emphasis in its speech, a short-term effect, while a negative and significant coefficient β4 on the [*Vulnerability (t−1)*] variable would denote that the more the government is vulnerable at the previous time period, the more the government emphasizes a given issue in its speech at the current period.

The model specification also includes the government's lagged issue emphasis in its speech, [*Govt Speech (t−1)*], to control for the government's long-term level of issue emphasis in its speech, and to evaluate whether governments that were emphasizing a given issue at the previous time period tend to emphasize it less at the current time period. The model also controls for government ideology. Including the variable [*Govt Ideology (t)*] in the equation allows testing the mechanism through which public opinion influences policy (see Hakhverdian 2010: 849-850).[9]

Finally, in the empirical analyses years when a new government emerged whose ideology differed from the previous government, such as Schroeder I in 1998 and Merkel I in 2005, are omitted. This is because in these years the lagged and current levels of government rhetoric pertain to different governments, so that the public plausibly does not hold the current

[9] Government ideology is a dummy variable that equals 1 if the PM party is the SPD and 0 if the PM party is the CDU.

government responsible for the previous government's lagged behavior. However, successive governments with the same Chancellor are considered as the same.

Results

Table 2 reports the parameter estimates (with panel-corrected standard errors in parentheses) for the pooled model given by equation 5 above, estimated over all issues. Column 2 reports the parameter estimates computed using a common measure of Government Popularity, column 3 reports the parameter estimates computed using the Government Potential Vulnerability measure, whereas columns 4-6 reports the parameter estimates computed using the Formateur Potential Vulnerability measures.[10] Before turning to effects pertaining to public priorities and government vulnerability, note that the coefficient on the variable [*Govt Speech (t−1)*] is negative and significant in all four sets of analyses while the coefficient on the intercept is positive, which implies a 'regression to the mean' in government issue emphasis, i.e., when government issue emphasis was unusually high (low) at the previous time period, then emphasis tended to subsequently decline (increase) at the current period.

We next consider the effects of public priorities and government vulnerability. If dynamic representation in Germany occurs, we would expect significant coefficient estimates on either (or both) of the variables [Δ *Public Priorities (t)*] and [*Public Priorities (t−1)*]. This is indeed the case.[11] If government vulnerability was equal to zero, the coefficient estimates on

[10] Note that since some of the measures are highly correlated with each other (see Table A1), we preferred to estimate our model by including one variable at a time.

[11] The models without interactions are reported in Table A2 and confirm that dynamic representation in Germany occurs independently of electoral vulnerability. In fact, long-term

these variables, in combination with their standard errors, would imply that public issue salience has both short-term and long-term positive and significant effects on government emphasis in its executive speeches, i.e. that the government responds in its policy agendas to both changes in and past levels of public priorities. The analysis also shows that there is no direct effect of electoral vulnerability – either in the short-term or in the long-term – on changes in government emphasis in executive speeches, in that that coefficients of the variables [Δ *Vulnerability (t)*] and [*Vulnerability (t−1)*] are insignificant at conventional levels, except in one case.

Table 2. The vulnerability hypothesis in Germany (1987-2005)

	POP	GPV	FPV (a)	FPV (b)	FPV (c)
Govt Speech (t-1)	-1.015***	-1.018***	-1.016***	-1.006***	-1.006***
	(0.161)	(0.161)	(0.159)	(0.158)	(0.158)
Δ *Public Priorities (t)*	0.184*	0.184*	0.175*	0.192*	0.192*
	(0.104)	(0.103)	(0.104)	(0.103)	(0.103)
Public Priorities (t-1)	0.386	0.198***	0.185	0.194***	0.194***
	(0.306)	(0.053)	(0.166)	(0.051)	(0.051)
Δ *Vulnerability (t)*	0.013	0.010	0.031	0.006	0.006
	(0.048)	(0.025)	(0.040)	(0.023)	(0.023)
Vulnerability (t-1)	-0.119	-0.067	-0.109**	-0.062	-0.062
	(0.077)	(0.042)	(0.055)	(0.040)	(0.039)
Δ *Public Priorities (t)* × Δ *Vulnerability (t)*	-0.029*	-0.018**	-0.032*	-0.021**	-0.021**
	(0.015)	(0.009)	(0.017)	(0.010)	(0.010)
Public Priorities (t-1) × *Vulnerability (t-1)*	-0.004	-0.001	0.000	-0.001	-0.001
	(0.007)	(0.004)	(0.005)	(0.003)	(0.003)
Govt Ideology (t)	0.915*	0.848*	0.147	0.331	0.331
	(0.507)	(0.481)	(0.491)	(0.437)	(0.437)
Constant	7.215**	1.499***	5.627***	1.826***	1.826***
	(3.452)	(0.572)	(1.788)	(0.498)	(0.498)
N	128	128	128	128	128
R^2	0.58	0.58	0.56	0.58	0.58

effects of public priorities on government speeches are positive and significant at conventional levels.

* p < 0.10, ** p < 0.05, *** p < 0.01

Notes. The coefficients are reported with panel-corrected standard errors in parentheses. Column 2 compares the government popularity (POP) model with the government vulnerability models (GPV, FPV a, b, c). The variables are defined in the text.

The results on the Vulnerability Hypothesis are now considered. If electoral vulnerability had a beneficial effect on government responsiveness, a negative and significant coefficient on either (or both) of the interacted variables [Δ *Public Priorities (t)* $\times$ Δ *Vulnerability (t)*] and [*Public Priorities (t*−1*)* $\times$ *Vulnerability (t* − 1*)*] would be expected. According to the level of vulnerability based on the different measures proposed, it has been argued above that a stronger effect of both government vulnerability and the PM party vulnerability on government responsiveness would be expected in all but one scenario, namely in the case of vulnerability of the PM party against its junior coalition partner, which in Germany seems to be none. While the empirical analysis finds no long-term effects of potential vulnerability on government responsiveness in any of the vulnerability measures, the Vulnerability Hypothesis is, instead, supported in the short-run. There is, indeed, evidence of short-term effects of electoral vulnerability on government responsiveness in all models, but differences apply.

The conditional effect of the interacted variable [Δ *Public Priorities (t)* $\times$ Δ *Vulnerability (t)*] is negative and weakly significant ($p < 0.10$) for the vulnerability of the PM party against its largest junior coalition partner (model FPV (a)), which is in line with our expectations. The effect is instead stronger ($p < 0.05$) for the vulnerability of the government as a whole against opposition (model GPV), the vulnerability of the PM party against its largest opposition party (model FPV (b)) as well as against its strongest competitor (model FPV (c)).

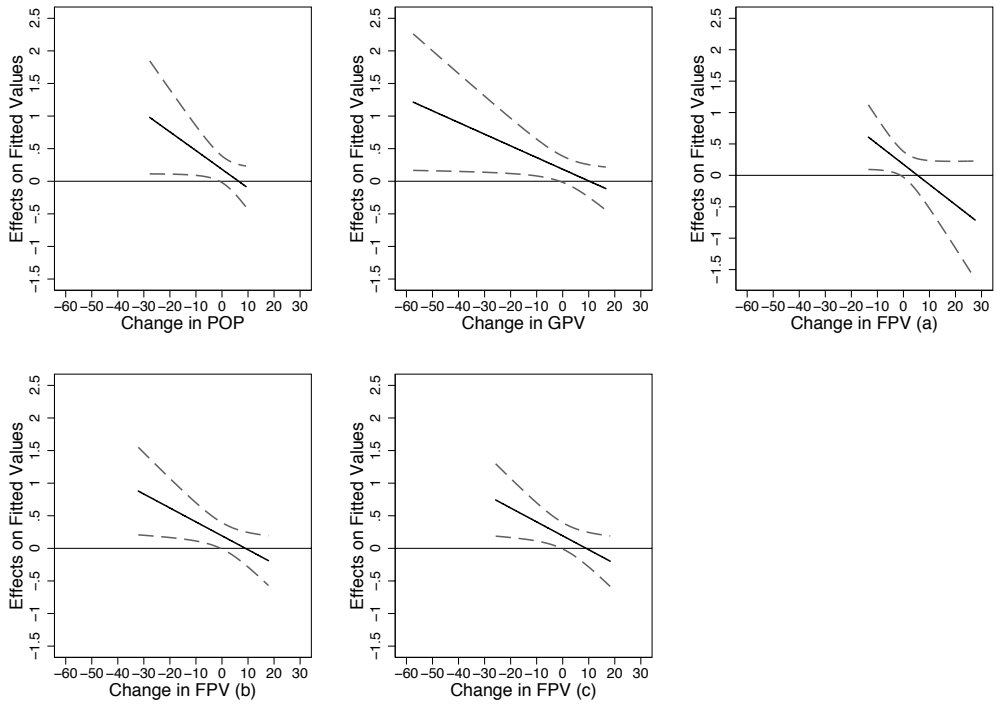
Column 2 reports the results for the Government Popularity (POP) measure, where neither junior coalition partners nor opposition parties are explicitly taken into account. In comparison with our vulnerability measures, short-term effects of government popularity on government responsiveness to public priorities are also present. The coefficient in the interactive variable is in fact in the right direction, namely lower government popularity is associated with higher responsiveness. However, it is worth noting that the coefficient of the interaction is only statistically significant at $p < 0.10$.

Figure 2 displays the marginal effects of the [Δ *Public Priorities (t)* $\times$ Δ *Vulnerability (t)*] variable on the [Δ *Govt Speech (t)*] variable, computed for the coefficient estimates reported in Table 1. According to the plot, an increase in public priorities on a given issue in the current year – compared to the previous year – is associated with an increase in issue emphasis in government speeches conditional on government vulnerability. The effect of vulnerability on responsiveness stops being statistically significant at around zero, suggesting that only negative and not positive changes in vulnerability are associated with an increase in government responsiveness to public priorities.

To sum up, our findings show that there is a relationship between electoral pressures and government responsiveness to public priorities in the German Chancellor's policy agenda. The way these electoral pressures are measured leads to somewhat different results. In particular, short-term effects of electoral vulnerability on responsiveness are stronger when the whole government faces the major opposition and when the PM party faces the largest opposition party or the largest competitor, which in the period covered by our data almost always coincide. Short-term effects are, instead, weaker with a classic measure of government popularity and when the PM party faces its junior coalition partner, which in Germany never really constitutes a big threat

to the Chancellor party.

Figure 2. Effects of electoral vulnerability on agenda responsiveness in Germany (1987-2005), by measure



Note. The figure displays the marginal effects of the [Δ *Public Priorities (t)* × Δ *Vulnerability (t)*] variable on the [Δ *Govt Speech (t)*] variable, computed for the coefficient estimates reported in Table 2. The dashed lines denote 95 percent confidence intervals. The variables are defined in the text.

Robustness Checks (note to reviewers: these analyses are reported in a Supplementary Materials memo appended at the end of the paper)

We conducted additional analyses to assess the robustness of our findings. First, the models have been re-estimated by including a trend variable that controls for time effects (Table A3) and by including policy dummies to control for policy effects (Table A4). Second, since the state of the economy might have an impact on government policy, we re-estimated the models while controlling for national levels of unemployment and inflation, along with changes in these levels (Table A5). These analyses, which are reported in the SM memo, continue to support our substantive conclusions. Third, since the causal relationship between opinion and policy can also be reciprocal (e.g., Soroka and Wlezien 2010) in that popular governments can lead public opinion (Hakhverdian 2012), the counter movement hypothesis is also tested (Table A6). No evidence, however, is found in Germany that governments manipulate the public by influencing issue priorities through their policy agendas when they are popular.

Conclusion and Discussion

Governing parties' behavior in opinion polls is important not only for election outcomes but also for policy and representation. Our paper makes several contributions for the latter. First, work on responsiveness tended to capture dynamics in electoral pressures using a measure of government popularity. We discussed the limitations of this approach and went beyond by proposing two more fine-grained measures of vulnerability using opinion polls that can be easily replicated by political analysts for undertaking comparative research. This was the main goal of the paper. Second, our contribution is also empirical. Both measures are tested on the framework of dynamic representation with data from the Comparative Agendas Project on executive speeches in Germany (1987-2005). Our findings are the following.

First of all, dynamic representation in Germany works, whereby past public issue

priorities influence changes in issue emphasis in German government agendas (Table A2), and this is in line with previous findings on agenda responsiveness (e.g., see Bevan and Jennings 2014). More importantly for our purposes, we find short-term effects of electoral vulnerability on agenda responsiveness to public priorities. In particular, we find that German coalition governments are more under siege when pressure comes from outside rather than from inside the government. That is, the PM party in Germany is never really vulnerable against its junior coalition partner. Interestingly, government attention to public priorities is not much conditional on the level of government vulnerability, when the latter is measured in relation to the performance of the junior coalition partner at the polls or when traditional measures of popularity are used. The electoral incentive, instead, occurs when vulnerability of the PM party is measured as a function of the strength of the major opposition party. In this case, in fact, vulnerability does have a short-term effect on government responsiveness and governing parties adjust their policy agendas to public priorities. Hence we think our measures depict the effect of vulnerability on responsiveness more reliably than the effect of government popularity on responsiveness.

We believe that our measures can find application in other research areas such as the one of coalition heuristics (e.g., Fortunato and Stevenson 2013) to answer some of the questions arising from coalition politics and its consequences on voters. For instance, recent research by Sagarzazu and Klüver (2017) finds that coalition parties need to compromise in order to maintain the coalition and, at the same time, need to differentiate from their partners to strengthen their own policy profile. On the same line, Klüver and Spoon (2016) find that, as conflict over an issue among coalition partners increases, parties will pay less attention to voters' issue priorities. Would, then, the loss of the formateur advantage have consequences for the longevity and unity of the coalition? Would this have consequences for voters' perceptions of coalition partners'

positions?

Our paper comes with important limitations. Although agenda responsiveness in Germany represents an illustrative case for our measures, our findings are not easily generalizable and are limited to the data at our disposal. Consistent with previous studies, our findings are based on issues that are considered salient in the public sphere, but cannot say much for low or not salient issues. However, previous research by Hobolt and Klemmensen (2008) and Hakhverdian (2010) using executive speeches found evidence that popularity has an impact on agenda responsiveness in different contexts and in the expected direction. We want to avoid speculations but, taken together, our findings and their findings seem suggesting that there is some scope for electoral incentives influencing dynamic representation in symbolic/rhetorical policy venues.

Future research should study whether electoral vulnerability of different coalition partners influences their responsiveness differently and whether the vulnerability effect varies across the election cycle, such as in the campaign (Bevan and Krewel 2015). The German case showed that government attention responds when vulnerability comes from outside the government. Future research should also explain the source of vulnerability in countries with more fragmented party systems where more than one coalition partner is in government, and whether the potential of losing the pivotality advantage would be sufficient for governments to respond.

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